

Remarks

Favorable reconsideration of this application, in view of the above amendments and in light of the following remarks and discussion, is respectfully requested.

Claims 1, 3-6, 8-11, 13-16, and 18-30 are currently pending in the application; independent Claims 1, 6, 11, 16, 21, and 27-30 having been amended by way of the present response. Applicants respectfully assert that support for the change to the claims is self-evident from the originally filed disclosure, including the original claims, and that therefore no new matter has been added.

In the outstanding Office Action, Claims 1, 4-6, 9-11, 14-16, 19-21, 23, and 27-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,101,018 to Naiki et al. (Naiki) in view of U.S. Patent No. 6,246,463 to Hamada et al. (Hamada); Claims 3, 8, 13, 18, and 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Naiki in view of Hamada and further in view of Japanese Publication No. 5-6077 to Nakayama; Claim 22 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Naiki in view of Hamada and further in view of U.S. Patent No. 5,471,236 to Ito; Claim 24 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Naiki in view of Hamada and further in view of U.S. Patent No. 4,393,387 to Kitamura; and Claim 25 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Naiki in view of Hamada and further in view of U.S. Patent No. 5,774,248 to Komatsu.

The present invention is directed to multi-beam scanning devices (e.g., as recited in independent Claims 1, 11, 21, 27, and 29), as well as image forming apparatuses (e.g., independent Claims 6, 16, 28, and 30). Independent Claims 1 and 6 recite a laser diode array having at least three light emitting points arranged in a package at an equal interval and configured to emit respective laser beams that form corresponding laser beam spots on a recording medium at a minimum recording interval. The laser diode array is disposed on a

holder having a projection configured to receive a collimator thereon. Independent Claim 11 recites a laser emitting means for emitting laser beams, including at least three light emitting points arranged in a package at an equal interval and configured to emit the at least three laser beams to form corresponding laser beam spots on a recording medium at a minimum recording interval. The laser emitting means is disposed on a means for holding having a projection configured to receive a means for collimating the laser beams thereon.

Independent Claim 16 recites means for emitting laser beams, including at least three light emitting points arranged in a package at an equal interval and for emitting laser beams to form corresponding laser beam spots on a means for recording at a minimum recording interval. The means for emitting laser beams is disposed on a means for holding having a projection configured to receive a means for collimating the laser beams thereon.

Independent Claim 21 recites a light beam emitting array including three or more light emitting elements, which are arranged at predetermined locations and which emit respective laser beams to form corresponding laser beam spots on a recording medium at a minimum recording interval. The light beam emitting array is disposed on a holder having a projection configured to receive a collimator thereon. Independent Claims 27 and 28 recite a laser diode array having at least three light emitting points arranged at an equal interval and configured to emit respective laser beams that form corresponding laser beam spots on a recording medium at a minimum recording interval. The laser diode array is disposed on a holder having a projection configured to receive a collimator thereon. Independent Claim 29 recites a laser emitting means for emitting laser beams, including at least three light emitting points arranged at an equal interval and configured to emit the at least three laser beams to form corresponding laser beam spots on a recording medium at a minimum recording interval. The laser emitting means is disposed on a means for holding having a projection configured to receive a means for collimating the laser beams thereon. Independent Claim 30 recites

means for emitting laser beams, including at least three light emitting points arranged at an equal interval and for emitting laser beams to form corresponding laser beam spots on a means for recording at a minimum recording interval. The means for emitting laser beams is disposed on a means for holding having a projection configured to receive a means for collimating the laser beams thereon.

Naiki is directed to a light beam scanning optical apparatus. As shown in Figures 1 and 16, for example, of Naiki, a light source unit 1 includes a laser diode array 2 and a collimator lens 5.

Applicants respectfully assert, however, that Naiki does not teach or suggest the claimed features of a laser diode array disposed on a holder having a projection configured to receive a collimator thereon, as recited in independent Claims 1, 6, 27, and 28. Specifically, Applicants respectfully assert that Naiki does not show or state the laser diode array 2 disposed on a holder having a projection to receive the collimator lens 5 thereon, for example.

Specifically, independent Claims 1, 6, 27, and 28 recite “the laser diode array disposed on a holder having a projection configured to receive a collimator thereon.”

The Office Action relies on Hamada in an attempt to remedy the deficiencies of Naiki. Applicants respectfully assert that Hamada fails to remedy these deficiencies, however, for the following reasons.

Hamada is directed to an optical laser scanning device. As shown in Figure 2, for example, of Hamada, an optical scanning system 50 includes a semiconductor laser array 51 and a collimator lens 53.

Applicants respectfully assert, however, that Hamada does not teach or suggest the claimed features of a laser diode array disposed on a holder having a projection configured to receive a collimator thereon, as recited in independent Claims 1, 6, 27, and 28. Specifically,

Applicants respectfully assert that Hamada does not show or state the semiconductor laser array 51 disposed on a holder having a projection to receive the collimator lens 53 thereon, for example.

Thus, for the above reasons, Applicants respectfully assert that neither Naiki nor Hamada, whether taken alone or in combination, teaches or suggests the claimed features recited in independent Claims 1, 6, 27, and 28. Therefore, Applicants respectfully request that the rejection of independent Claims 1, 6, 27, and 28 under 35 U.S.C. § 103(a) be withdrawn and the independent claims allowed.

For reasons similar to those discussed above, Applicants respectfully assert that Naiki and Hamada, whether taken alone or in combination, do not teach or suggest the claimed features of laser emitting means disposed on a means for holding having a projection configured to receive a means for collimating laser beams thereon, as recited in independent Claims 11 and 29, the claimed features of means for emitting laser beams disposed on a means for holding having a projection configured to receive a means for collimating laser beams thereon, as recited in independent Claims 16 and 30, and the claimed features of a light beam emitting array disposed on a holder having a projection configured to receive a collimator thereon, as recited in independent Claim 21.

Specifically, independent Claims 11 and 29 recite “the laser emitting means disposed on a means for holding having a projection configured to receive a means for collimating the laser beams thereon.” Independent Claims 16 and 30 recite “the means for emitting laser beams disposed on a means for holding having a projection configured to receive a means for collimating the laser beams thereon.” Independent Claim 21 recites “the light beam emitting array disposed on a holder having a projection configured to receive a collimator thereon.” Thus, Applicants respectfully request that the rejection of independent Claims 11, 16, 21, 29, and 30 under 35 U.S.C. § 103(a) be withdrawn, and the independent claims allowed.

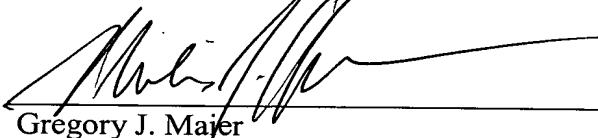
Applicants respectfully assert that Claims 3-5, 8-10, 13-15, 18-20, and 22-26 are allowable for the same reasons as the independent claims from which they depend, as well as for their own features. Thus, Applicants respectfully request that the rejections of dependent Claims 3-5, 8-10, 13-15, 18-20, and 22-26 under 35 U.S.C. § 103(a) be withdrawn and the dependent claims allowed.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1, 3-6, 8-11, 13-16, and 18-30 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact the undersigned representative at the below listed telephone number.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Majer
Attorney of Record
Registration No. 25,599

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/03)

Philip J. Hoffmann
Registration No. 46,340